Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
	)	
Revision of the Commission's Rules	)	CC Docket No. 94-102
To Ensure Compatibility with	)	RM-8143
Enhanced 911 Emergency Calling Systems	)	

COMMENTS OF NOKIA TELECOMMUNICATIONS, INC.

Nokia Telecommunications, Inc. ("Nokia") by its undersigned counsel and pursuant to Section 1.415 of the Rules of the Federal Communications Commission, 47 C.F.R. § 1.415, respectfully submits these Comments in response to the Further Notice of Proposed Rule Making ("Further Notice") in the above-referenced proceeding.[1]

I. Introduction and Background

Nokia is an international manufacturer of telecommunications equipment specializing in wireless infrastructure and handset equipment. As a major manufacturer of wireless equipment, Nokia has a significant interest in the outcome of this proceeding. Nokia generally supports the Commission's goals of improving the quality, reliability and availability of 911 services to the customers of wireless telecommunications service providers because Nokia has a long track record of concern for its customers' safety, particularly with respect to 911 emergency calls. There are, however, several aspects of the Commission's proposals in the Further Notice which Nokia believes should be modified by the Commission. Specifically, Nokia provides comment on the Commission's new proposals concerning location information technology requirements

---

[1] Report and Order and Further Notice of Proposed Rulemaking, FCC 96-264 (July 26, 1996) ("First R & O" or "Further Notice").

for E911 wireless services. In addition, Nokia provides comment on the Commission's goal of enabling wireless users to access any system to service a wireless 911 call, regardless of the specific service provider, system or technology.

II. The Automatic Location Information Requirements Proposed in the Further Notice Are Not Realistic at This Time

Consistent with the Commission's goals in this proceeding, Nokia is working constantly to develop more reliable and accurate Automatic Location Information ("ALI") technologies for wireless E911 services. Nokia believes, however, that the Commission should refrain from imposing unverified and potentially unrealistic ALI requirements on wireless service providers at this time. Until comprehensive industry field trials and feasibility studies of advanced E911 technologies have been conducted, it is premature to impose any location information requirements for wireless E911 services at this time, much less more stringent standards proposed by the Commission in the Further Notice.

In the Further Notice, the Commission proposed that wireless carriers "be required to achieve the capabilities necessary to provide [to Public Safety Answering Points ("PSAPs")] . . . information that locates a wireless 911 caller within a radius of 40 feet, using the longitude, latitude, and vertical location data, and that provides this degree of accuracy . . . for 90 percent of the 911 calls processed."[2] Moreover, the Commission proposed that these accuracy standards be met at the end of the initial five year period during which carriers are responsible for developing the ALI standards adopted in the Report & Order.[3]

---

[2] Further Notice at ¶ 138.

[3] *Id.* at ¶ 139. In the Report & Order, the Commission required wireless carriers to provide, within five years of the effective date of the rules and with 67 percent

The ALI requirements proposed in the Further Notice are even more exacting than the requirements adopted in the Report & Order. These new ALI standards increase the required degree of geographic accuracy by a factor of approximately 12, from 125 meters to 40 feet, and the required reliability level from 67 percent reliability to 90 percent. In addition, the Commission's proposal adds a third geographic variable -- vertical location -- which a carrier must identify within 40 feet. As noted, the Commission proposed that these more stringent standards be implemented by the same deadline it imposed for the development of the Phase II Requirements.

These proposed ALI requirements are currently unrealistic and are not supported by the record in this proceeding. As noted by Nokia in its Petition for Reconsideration of the Report & Order, the record in this proceeding does not support even the Commission's mandate of the Phase II Requirements. Yet despite this lack of record support for the Phase II Requirements, the Commission has proposed even more stringent ALI requirements in the Further Notice. In doing so, the Commission is proposing to mandate industry requirements based upon its

---

reliability, the location of a 911 caller in terms of latitude and longitude within a radius of 125 meters (the "Phase II Requirements"). Nokia, along with several other manufacturers and wireless carriers, petitioned the Commission to reconsider this requirement. Nokia stated that the Phase II Requirements adopted by the Commission were unrealistic and should be removed from the rules adopted in the First R & O and reconsidered at a later time. *See* Nokia Petition for Reconsideration at 4; BellSouth Petition for Reconsideration at 10 (the five-year deadline for providing detailed location information is unrealistic and should be eliminated); PCIA Petition for Reconsideration at 12 (the goal of a five-year implementation schedule is overly ambitious). *See also*, Letter from Mary E. Brooner, Manager, Wireless Regulatory Policies, Motorola, Inc., to William Caton (September 3, 1996)(clarifying that Motorola was providing no assurances that it can develop ALI technology that provides the level of accuracy required by the Commission within the five year time frame).

predictions of the pace of the development of technology rather than on record evidence demonstrating the actual capabilities of these technologies.

The Commission acknowledges that it is in fact, engaged in predictive rulemaking because its proposal that the new ALI standards be adopted within the initial five year period is "based on [its] estimate that such a standard will be feasible at that time."[4] In arriving at this "estimate," the Commission noted that one manufacturer, KSI, Inc. ("KSI"), stated that it was already possible to implement location technology that can identify a 911 caller's location with a reliability of 90 percent.[5] Although KSI did claim that its technology could provide "an 86.47% probability of containment,"[6] its testing was conducted under limited and controlled conditions and falls far short of constituting an adequate evidentiary basis to sustain the Commission's contention that the 40 foot, 90 percent ALI reliability standard is achievable within five years.[7] It is understandable that KSI and other developers of location technologies would provide the Commission with optimistic estimates of the future capabilities of their potential products. Regulatory requirements cannot be mandated, however, based upon these untested assertions. The accuracy and reliability of these location technologies must be proven in comprehensive industry field trials and feasibility studies. Absent such information, neither the Commission nor wireless carriers and manufacturers can be assured that wireless E911

---

[4] Further Notice at ¶ 139.

[5] Id.

[6] KSI Reply Comments at 5.

[7] As noted by Motorola, these technologies "must be tested in a variety of propagation environments and technical network configurations with a range of air and PSAP interfaces to assure consistent, reliable delivery of location information." Motorola, Inc., Reply Comments, filed March 11, 1996, at 3.

location information technology will perform as anticipated when it is deployed in real world situations.

In considering the Comments of KSI, the Commission must be careful not to force just one of today's technologies upon an uncertain future. Although technological progress is certain, the best path to that point is not clear today. A broader and more flexible approach to future events is needed to ensure that the American public benefits from all technological innovation. Nokia applauds the Commission for taking such an active role in encouraging the development of this important technology as quickly as possible. Given the undeniable primacy of reliability, however, Nokia urges the Commission to refrain from mandating specific ALI requirements at this time.

III. Multiple Air Interface Standards Currently Preclude Access to Multiple Mobile Systems

In the Further Notice, the Commission seeks "comment regarding how to achieve the goal of enabling wireless 911 service to be available and accessible wherever a qualifying mobile system is present . . . without regard to the availability (in the geographic area in which they seek to place a 911 call) of the system or technology utilized by their wireless service."[8] The Commission acknowledges that different air interface standards currently preclude the deployment of such capabilities but nevertheless sought comment on the feasibility of attaining the goal in the future.[9]

---

[8] Further Notice at ¶¶ 147, 148.

[9] Id at ¶ 147.

Nokia submits that while wireless manufacturers and service providers foresee the eventual development of a common interface standard which would allow subscribers of carriers employing different technologies to communicate with one another, this capability is far from being realized. The development of such a capability will entail the expenditure of enormous resources by wireless manufacturers and carriers. The Commission noted that rather than mandating a common technical air interface standard for broadband PCS or for digital cellular service, it is allowing the marketplace to determine which digital wireless protocols will survive.[10] In the same manner, the Commission should allow the marketplace to develop to a point where a common interface standard is technologically and economically feasible to deploy. Any effort to mandate a common interface standard prematurely will retard the natural development of such a standard by wireless manufacturers and carriers. Only when it is known which digital wireless standards ultimately prevail can an efficient and workable common interface protocol be developed.

IV. Conclusion

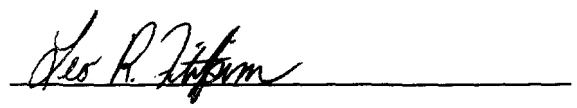
For the foregoing reasons, Nokia urges the Commission to refrain from adopting the currently unrealistic wireless E911 location requirements proposed in the Further Notice until comprehensive industry tests demonstrate the feasibility of developing ALI technology. The record in this proceeding does not support the proposed Phase II Requirements, much less the more exacting ALI standards proposed in the Further Notice. Consequently, the Commission must not mandate specific location requirements at this time. While the Commission should encourage carriers and manufacturers to develop new location technologies, the adoption of

[10] Id.

standards based on theoretical capabilities will only increase the chances that wireless E911 systems will not perform as expected in emergencies.

Respectfully submitted,

NOKIA TELECOMMUNICATIONS, INC.

By: 

John A. Malloy
Vice President,
Business and Industry Relations
Nokia Telecommunications, Inc.
1850 K Street, N.W.
Suite 1175
Washington, DC 20006
(202) 887-1798

Lawrence R. Sidman
Leo R. Fitzsimon
VERNER, LIIPFERT, BERNHARD,
MCPHERSON & HAND, CHARTERED
901 15th Street, N.W.
Suite 700
Washington, D.C. 20005
(202) 371-6130

September 25, 1996